VOROB'YEV, Anatoliy Andreyevich; VASIL'YEV, Nikolay Nikolayevich; KRAVCHENKO, Anatoliy Timofeyevich; ANAN'YEV, V.A., red.

[Anatoxins] Anatoksiny. Moskva, Meditsina, 1965. 487 p. (MIRA 18:10)

SHUBLADZE, A.K.; BARINSKIY, I.F.; BESPROZVANNYY, B.K.; ANAN'YEV, V.A.; VANAC, A.I.

Use of comparative virology methods in studying virus hepatites. Report No.1: Study of virus accumulation dynamics in the organs of experimentally infected animals. Vop. virus. 10 no.4:467-473 Jl-Ag '65. (MIRA 18:8)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.

BEZPROZVANNYY, B.K.; ANAN'YEV, V.A.; NARSKIY, S.V. (Moskva)

Experimental study of infectious hepatitis in dogs. Arkh.pat. 27 no.7:70-72 '65. (MIRA 18:8)

1. Institut virusologii imeni D.I.Ivanovskogo (direktor - deystvitel'nyy chlen AMN SSSR - prof. V.M.Zhdanov) AMN SSSR.

ACC NR: AP6027597 SOURCE CODE: UR/0248/66/000/008/0087/0092

AUTHOR: Zhdanov, V. M.; Shubladze, A. K.; Paktoris, Ye. A.; Anan'yev, V. A.

ORG: Institute of Virology im. D. I. Ivanovskiy, Academy of Medical Sciences, SSSR, Moscow (Institut virusologii AMN SSSR)

TITLE: Infectious hepatitis, Botkin's disease

SOURCE: AMN SSSR. Vestnik, no. 8, 1966, 87-92

TOPIC TAGS: ~~infectious~~ hepatitis, Botkins disease, epidemiology, public health, DISEASE CONTROL

ABSTRACT:
Various aspects of Botkin's disease, a type of infectious hepatitis, are analysed. Its principal victims are children and young adults. The disease is one of the most widespread viral infections in the Soviet Union, and is more dangerous for children than for adults. Clinical aspects and a detailed plan for its prophylaxis are presented. [WA-50; CBE No. 11]

SUB CODE: 06/ SUBM DATE: none

Card 1/1 UDC: 616.36-002.12 (047)

7(0)

AUTHOR: Anan'yev, V. A.

SOV/32-24-12-38/45

TITLE: Improvement in the Regulation Plan of the 200 Ton Testing Machine (Usovershenstvovaniye skhemy upravleniya 200-t ispytatel'noy mashinoy)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 12, pp 1516 - 1517 (USSR)

ABSTRACT: In testing metallic mining stempels in the laboratory a 6-8 hour loading procedure on the 100 or 200 ton testing machine is carried out. The regulation of the machine is carried out manually and the observation of the course of the test is visual, which for the duration of the test is rather uncomfortable. A new regulation plan for this testing machine was developed. The data on the P008 model are the following: rated load 200 tons, working pressure of the liquid 200 kg/cm^2; piston stroke 400 mm; greatest separation between the pressure plates 2500 mm; working velocity (regulated in mm/minute) 0-70; over-all surface dimensions 13165 × 1855. The new set-up has already been in use for a long time,

Card 1/2

Improvement in the Regulation Plan of the 200 Ton Testing Machine SOV/32-24-12-38/45

and provides for an automatic switching off of the machine when the maximum load is reached (this can be previously determined). Several machines can be operated at once in this manner, and the destruction of the sample and eventual damaging of the machine are avoided. The plan of the described electrical arrangement is given (Figure).There is 1 figure.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut (All-Union Scientific Research Institute of Coal)

Card 2/2

ANAN'YEV, V.A.

Soil tillage before sowing. Zemledelie 24 no.4:71 Ap '62.
(MIRA 15:4)

1. Khakhasskaya sel'skokhozyaystvennaya opytnaya stanstiya.
(Krasnoyarsk Territory—Tillage)

L 22417-66 EWT(m)/EPF(n)-2/EWG(m) WW

ACC NR: AP6007943 SOURCE CODE: UR/0089/66/020/002/0106/0111

AUTHORS: Anan'yev, V. D.; Antsupov, P. S.; Kapitsa, S. P.; Khar'yuzov, R. V.; Matora, I. M.; Melekhin, V. N.; Merkulov, L. A.

ORG: none

TITLE: 30 Mev microtron injector for a fast-neutron pulsed reactor

SOURCE: Atomnaya energiya, v. 20, no. 2, 1966, 106-111

TOPIC TAGS: linear accelerator, particle accelerator component, fast neutron, fast reactor/

ABSTRACT: The authors describe briefly the main features and parameters of the 30-Mev microtron injector (linear-accelerator injector) now in operation at the Laboratory of Neutron Physics of OIYaN. The use of a microtron helps greatly reduce the duration of the reactor activity burst and by the same token improve the resolution attainable with fast-neutron experiments, since the reactor does not become supercritical and serves only as a neutron multiplier.

Card 1/2 UDC: 621.384.611.3

L 22417-66
ACC NR: AP6007943

The microtron is identical in design with that of the IFP (L. M. Zykin et al., Transactions of International Conference on Accelerators, Dubna, 1963, p. 1049). The individual units of the microtron as modified to operate with the IBR reactor are described briefly, together with the results of approximately 350 hours of operation.. The electron current, separated and focused on a remote target, reaches 60 ma in pulse. An original optical system for extraction, focusing, and aiming the beam on the target, together with the good monochromatic properties of the beam (energy scatter 0.3%) and small angle divergence ensure 100% efficiency of utilization of electrons remaining in the last (thirtieth) orbit. The authors thank D. I. Blokhintsev, P. L. Kapitsa, I. M. Frank, and F. L. Shapiro for continuous interest and help, and S. K. Nikolayev, B. I. Voronov, and B. N. Bunin, whose cooperation contributed to the construction of the accelerator. Orig. art. has: 6 figures

SUB CODE: 18 SUBM DATE: 09Aug65/ ORIG REF: 003/

Card 2/2

ANAN'YEV, V.G., Cand Med Sci -- (diss) "Trauma of the foot and its prophylaxis in miners of the Krivoy Rog iron ore basin." Dnepropetrovsk, 1958, 21 pp (Min of Health UkSSR. Dnepropetrovsk State Med Inst) 210 copies (KL, 7-58, 115)

DOLGOVSKIY, V.V., otv. za vyp.; ANAN'YEV, V.I., otv. za vyp.; RYBAKOVA, L.G., tekhn. red.

[Increasing the production capacity in the manufacture of sausage and culinary goods]Intensifikatsiia proizvodstva kolbasnykh i kulinarnykh izdelii; materialy. Moskva, TSent. in-t nauchno-tekhn. informatsii pishchevoi promyshl., 1962. 67 p. (MIRA 16:4)

1.Nauchno-tekhnicheskaya konferentsiya po voprosam intensifikatsii proizvodstva kolbasnykh i kulinarnykh izdeliy, Moscow,1961. (Meat industry)

SINITSYN, K.D., kand. tekhn. nauk; GNOYEV, P.S.; KRAVCHENKO, N.D.; ANAN'YEV, V.I., otv. red.; MANVELOVA, Yu.S., tekhn. red.

[Testing new equipment for the manufacture of sausage]Ispytanie novogo oborudovaniia kolbasnogo proizvodstva. Moskva, 1962. 87 p. (MIRA 16:4)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii pishchevoy promyshlennosti. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti (for Sinitsyn, Gnoyev, Kravchenko).
(Food machinery--Testing)

GORBATOV, V.M.; GUROV, V.A.; POZHARISKAYA, L.S.; DOLGOVSKIY, V.V., otv. za vyp.; ANAN'YEV, V.I., otv. za vyp.; MANVELOVA, Ye.S., tekhn. red.

[Production of endoenzyme preparations in Bulgaria and France] Proizvodstvo endokrinno-germentnykh preparatov v Bolgarii i Frantsii. Moskva, TSentral'nyy in-t nauchno-tekhn. inform. pishchevoi prom., 1962. 33 p.
(MIRA 17:3)

ANAN'YEV, V.M.

1821. ANANIEV V.M. *The electroencephaloscope FIZIOL. Z. 1956, 42/11 (981-988) Illus. 6 (Russian text)

A recording set with leads from 50 points is described. Resulting potentials are recorded as luminous points projected upon the screen of the kinescope where they are located according to the spatial distribution of electrodes. The brightness of each of the points corresponds to the magnitude of respective potentials. The recorded potentials are also projected upon the screen of a second cathode-ray tube as a time based sequence of impulses, with an amplitude proportional to magnitudes of respective biopotentials. Images from both screens are recorded on single cinematographic frames.

Simonson - Minneapolis, Minn.

ANANYEV V.M.

USSR/Human and Animal Physiology - The nervous System. V-10

Abs Jour : Ref Zhur - Biol., No 2, 1958, 8999

Author : M.M. Livanov, V.M. Anan'ev and N.P. Bekhtereva

Inst : -

Title : A Study of the Bioelectric Mosaics of the Cortex in Patients with Brain Tumors and Traumas by Means of Electroencephaloscopy.

Orig Pub : Zhurnal nevropatol. i psikhiatrii, 1956, 56, No 10, 778-790

Abstract : The electrical activity of 50 points on the cerebral cortex was recorded by means of an electroencephaloscope (Livanov, Anan'ev, Fiziol. zhurnal SSSR, 1955, No 4) on a screen on which the fluctuations in potential of the corresponding point were reflected in changes in intensity of illumination. The dynamics of the illumination of the points was recorded with a motion picture camera. When the cerebral cortex of rabbits was traumatized by the subdural introduction of a piece of paraffin, there was observed the

Card 1/3

Card 3/3

AKAN'YEV,V.M., Cand Biol Sci — (diss) "Multi-point spatial recording of the electric potentials of the brain of humans and animals (electroencephaloscope-50)." Moscow, 1959. 19 pp with diagrams (Acad Med Sci USSR), 2500 copies. (KL, 39-59,102)

25

LIVANOV, Mikhail Nikolayevich; ANAN'YEV, Vladimir Mikhaylovich

[Electroencephaloscopy] Elektroentsefaloskopiia. Moskva, Medgiz, 1959. 106 p. (MIRA 13:9)
(BRAIN--DIAGNOSIS) (ELECTROPHYSIOLOGY)

LIVANOV, M.N.; TSYPIN, A.B.; TRIGOR'YEV, Yu.G.; KHRUSHCHEV, V.G.; STEPANOV, S.M.; ANAN'YEV, V.M. (Moskva)

Effect of an electromagnetic field on the bioelectric activity of the cerebral cortex in rabbits. Biul. eksp. biol. i med. 49 no. 63-67 My '60. (MIRA 13:12)

1. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.
(ELECTRO MAGNETIC WAVES—PHYSIOLOGICAL EFFECT)
(CEREBRAL CORTEX)

GVOZDIKOVA, Z.M.; ANAN'YEV, V.M.; ZENINA, I.N.; ZAK, V.I.

Sensitivity of the central nervous system of rabbits to a continuous ultrahigh-frequency electromagnetic field. Biul. eksp. biol. i med. 58 no.8:63-68 Ag '64. (MIRA 18:3)

1. Submitted May 24, 1963.

L 27272-66 EEC(k)-2/EWT(d)/EWP(1) IJP(c) GG/BB

ACC NR: AP6016691 SOURCE CODE: UR/0219/66/061/001/0091/0095

AUTHOR: Anan'yev, V.M.— Ananyev, V.M.

60
55
B

ORG: none

TITLE: Method of simultaneous automatic analysis of many electrograms

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 61, no. 1, 1966, 91-95

TOPIC TAGS: tape recorder, magnetic tape, multichannel analyzer, data processeing, computer memory, computer/MAG-59 tape recorder

ABSTRACT: A new method for the simultaneous automatic processing of analytical data of a number of electrograms has been proposed. The essence of the method is as follows: signals from several electrograms are transmitted to a multicapacity analyzer in which the continuous signals are transformed into intermittent signals; the latter are then transferred from the several channels into a common channel. Electronic commutation signals are used for this purpose. In the common channel the signals are analyzed for their amplitude, and the data of the analysis are recorded on a single-track magnetic tape; they are then reproduced with the help of a marking selector, and fed into the magnetic memorizer of a computer for final processing of the data of the pertinent program.

Card 1/2 UDC: 616-073.97:612.014.421.7

L 27272-66

ACC NR: AP6016891

The use of magnetic tape in this method is prompted by the fact of the rapidity with which the experimental data can be recorded and prepared for input into the computer. Many of the physiological laboratores, however, may find it difficult to record signals of a wide range of amplitudes directly into a magnetic tape. In this case the use of conventional magnetophones is recommended. Instead of the signals being recorded, an analysis of their amplitude is made, and the results of this analysis are coded on the magnetic tape in the form of standard impulses. Such recording of the standard impulses is possible on any magnetophone with a tape moving at a rate adequate for the reading of the impulses. This method requires only a magnetophone, marking selector, and an input device. The use of the MAG-59 magnetophone with a tape moving at the rate of 760 mm a second is recommended. The author thanks V.A.Nazarov for developing the input system for the "Ural-2" for the multichannel analyzer and for promoting the introduction of new methods. The author also thanks K.B. Alekseyeva, V.A. Zobkov, M.A. Kosarez, and Ya.B. Lando for their assistance in the work. This paper was presented by Active member AMN SSSR P.D. Gorizontov.
Orig. art. has: 2 figures. [JPRS]

SUB CODE: 09 / SUBM DATE: 23Jul64 / ORIG REF: 011

Card 2/2

~~ANAN'YEV, V. P.~~
ANAN'YEV, V. P.

1 Jun 53

USSR/Geophysics - Loess

"Aeolian Origin and Composition of Minerals in the Loess of North China," I. D. Sedletskiy and V. P. Anan'yev, Rostov-on-Don State U imeni Molotov

DAN SSSR, Vol 90, No 4, pp 651-654

Describe three forms of loess found in Kansu Province in China: K-1, in the P'in-yuan Hsien plain; K-2, Kuan Hsien mountain area; K-3, terrace of the Yueh-chun Hsien area. Describe differential thermal curves of fractions less than 0.001 mm, and also describe the curves of dehydration of the three specimens (K-1, K-2, K-3). Presented by Acad V. A. Obruchev 7 Apr 53.

254T73

ANAN'YEV, V. P.

"Mineralogical Composition, Genesis and Sagging of the Loess on the Left Bank of the Upper Dnepr." Cand Geol-Min Sci, Kiev State U, Kiev, 1954. (RZhGeol, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

ANAN'YEV, V.P.

Composition and genesis of the loess of Hungary. I. D. Sedletskii, V. P. Anan'ev, and A. E. Kutsenko (V. M. Molotov State Univ., Rostov). *Doklady Akad. Nauk S.S.S.R.* 94, 941-52(1954).—The loess samples were studied as both rock and as individual fractions. Study of the compn. of these samples was made by the following methods: microscopic, x-ray, thermal, and chromatographic. Carbonate and pH were detd. and chem. analysis of the fine fractions was made. A table of mineralogical compn. data for the coarse fractions is included, as are some thermal curves for the fine fractions. Gladys S. Macy

62

(2)

SKDLETSKIY, I.D.; ANAN'YEV, V.P.; KUTSENKO, A.Ye.

Glacial deposits as a source of loess dust. Biul.Kom.chetv.per. no.20:60-70 '55. (MLRA 8:11)

(Loess)

ANANYEV V. P.

USSR/Geology - Petrography

Card 1/1 Pub. 22 - 45/52

Authors : Ananyev, V. P.

Title : The spreading and composition of loess in Issyk-Kulya (northern Kirghizia)

Periodical : Dok. AN SSSR 101/4, 755-758, Apr 1, 1955

Abstract : Scientific report is presented on the spreading, accumulation and composition of loess (wind-blown silt) covering large sections of Issyk-Kulya in northern Kirgizia. 4 USSR references (1945-1953). Tables.

Institution : .....

Presented by : Academician V. A. Obruchev, December 6, 1954

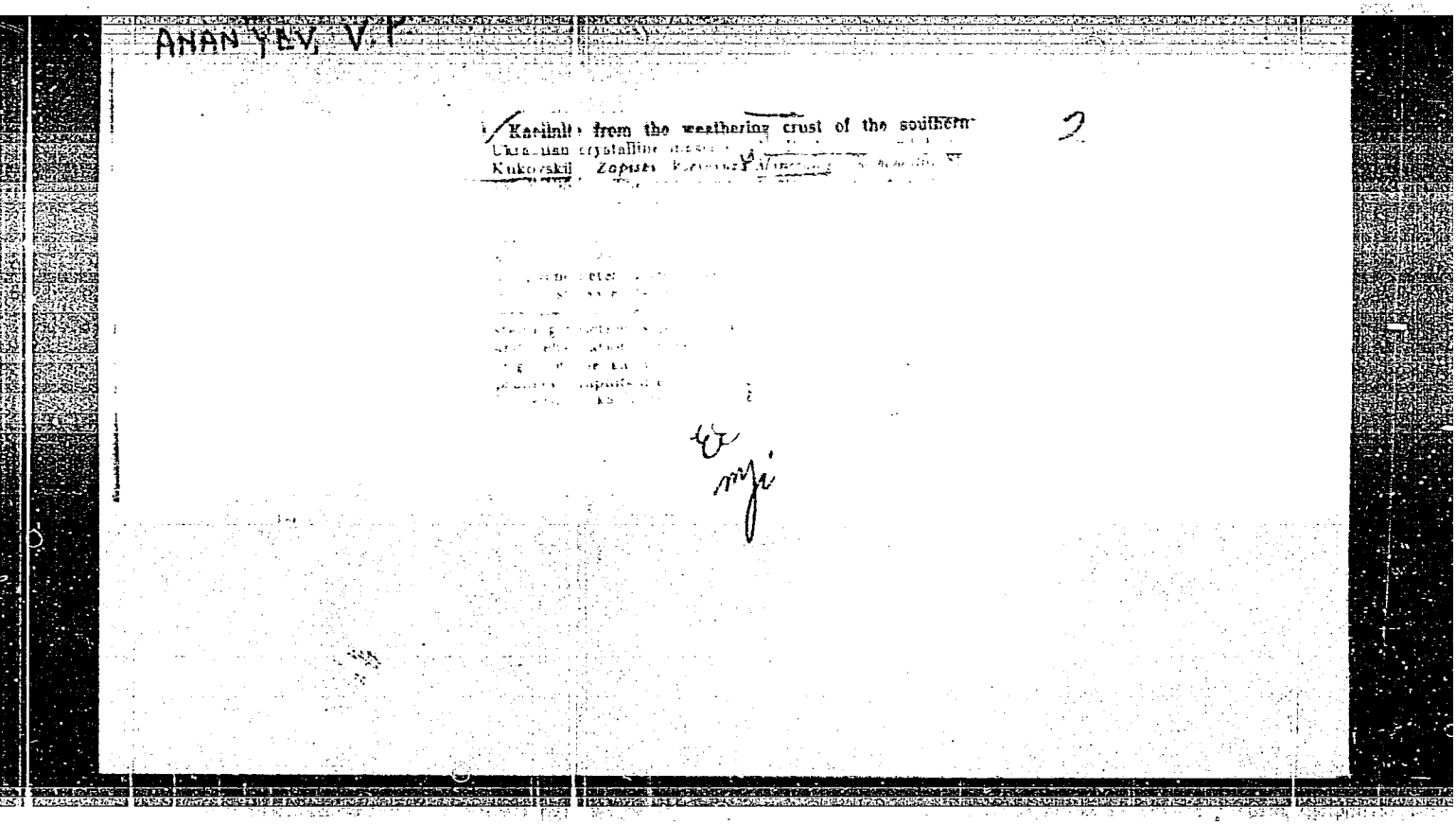
ANAN'YEV, V.P.; KONOPLENKO, A.I.; LARIONOV, A.K.

Investigation of concrete corrosion in river bridge supports.
Avt.dor.19 no.3:15-16 Mr '56. (MLRA 9:7)
(Bridges, Concrete--Corrosion)

ANAN'YEV, V.P., kandidat geologo-mineralogicheskikh nauk.

Unusual find. Priroda 45 no.9:117 S '56. (MLRA 9:10)

1.Rostovskiy inzhenerno-stroitel'nyy institut.
(Rostov-on-Don Province--Boulders)



ANAN'YEV, V.P.

Kaolinite from the weathering crust of the southern Ukrainian crystalline [illegible]
Kukovskii. Zapiski [illegible]

2

LARIONOV, A.K.; ANAN'YEV, V.P.

Sag of loess strata in the Northern Caucasus. Dokl.AN SSSR 108 no.2:309-312 My '56. (MIRA 9:9)

1.Predstavleno akademikom V.A.Obruchevym.
(Caucasus, Northern--Loess) (Engineering geology)

Anan'yev, V.P.

USSR/Cosmochemistry - Geochemistry. Hydrochemistry. D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30412

Author : Anan'yev, V.P.
Inst : Academy of Sciences USSR - Rostov/on/Don Engineering-Construction Inst.
Title : Mineralogical Composition of Loess Rock of Stavropol' Region (North Caucasus)

Orig Pub : Dokl. AN SSSR, 1956, 110, No 6, 1079-1082

Abst : Presentation of 1 spectral analysis of the < 1 μ fraction of loess (illite and montmorillonite).

Card 1/1

ANAN'YEV, V.P.

Chemicomineralogical composition of loess in the Kamensk region (Northern Donets Basin). Nauch.dokl.vys.shkoly; geol.-geog.nauki no.2:210-212 '58. (MIRA 12:2)

1. Rostovskiy universitet, inzhenerno-geologicheskiy fakul'tet, kafedra inzhenernoy geologii.
(Northern Donets Valley--Loess)

ANAN'YEV, V.P., dotsent, kand.teol.miner.nauk; YUROVSKIY, L.A., inzhener

Properties of volcanic tuffs from Nalchik region, supply base of natural building materials of the Northern Caucasus. Trudy RISI no.15:141-153 '58. (MIRA 13:6)
(Nalchik region--Volcanic ash, tuff, etc.)

LARIONOV, Anatoliy Konstantinovich; PRIKLONSKIY, Viktor Aleksandrovich [deceased]; ANAN'YEV, Vsevolod Petrovich; NIKITINA, V.N., red.izd-va; GUROVA, O.A., tekhn.red.

[Loess deposits of the U.S.S.R. and their engineering properties] Lessovye porody SSSR i ikh stroitel'nye svoistva. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1959. 366 p. (MIRA 12:8)

(Loess) (Soil mechanics)

ANAN'YEV, V.P.

Relationship between the lower Don loess and its chemicomineralogical composition. Izv.vys.ucheb.zav.; geol.i razv. 2 no.5:114-118 My '59. (MIRA 12:12)

1. Rostovskiy inzhenerno-stroitel'nyy institut.
(Don Valley--Loess)

ANAN'YEV, V.P.

Relationship between the granulometric and mineralogical composition of Eolian loess. Biul. Kom. chetv. per. no.24: 66-71 '60. (MIRA 16:7)

(Loess)

ANAN'YEV V P

PHASE I BOOK EXPLOITATION SOV/5394

Larionov, Anatoliy Konstantinovich, and Vsevolod Petrovich Anan'yev

Osnovy mineralogii, petrografii i geologii (Principles of Mineralogy, Petrography, and Geology) Moscow, Gosizdat "Vysshaya shkola," 1961. 388 p. Errata slip inserted. 7,000 copies printed.

Ed.: L. I. Grishina; Ed. of Publishing House: O. S. Vasil'yeva; Tech. Ed.: L. L. Yezhova.

PURPOSE: This textbook is intended for students of construction engineering.

COVERAGE: The book presents the fundamentals of geology, mineralogy and petrography, as they apply to construction engineering. Principles of engineering geology pertinent to the development of construction sites, the exploration and exploitation of minerals as building materials, and the properties and uses of natural and synthetic materials for construction purposes are discussed. The book is based on a series of lectures presented by the authors at various schools of engineering, and was authorized as a textbook by the Ministerstvo

Card 1/16

vysshego i srednego spetsial'nogo obrazovaniya SSSR (Ministry of Higher and Special Secondary Education of the USSR). The authors thank Professors N. Ya. Denisov and S. S. Morozov, as well as several members of the school of engineering of MISI (Moscow "Order of the Red Banner of Labor" Construction Engineering Institute imeni V. V. Kuybyshev). There are 59 references: 56 Soviet and 3 German.

TABLE OF CONTENTS:

ANAN'YEV, V.P., kand.geol.-mineral.nauk

Landslides and karst. Priroda 51 no.11:118-119 N '62.
(MIRA 15:11)

1. Rostovskiy inzhenernostroitel'nyy institut.
(Rostov-on-don--Landslides) (Rostov-on-don--Karst)

ZURNADZHI, V.A.; ANAN'YEV, V.P.; UKOLOVA, Z.S.

Determining possible deformations of sagging foundations and selecting construction measures. Osn., fund. i mekh.grun. 5 no.6:23-25 '63. (MIRA 16:12)

ANAN'YEV, V.P.

X-ray study of loess in a cross section of the lower Don Basin. Izv. vys. ucheb. zav.; geol. i razv. 7 no.2:99-105 F'64. (MIRA 17:2)

1. Rostovskiy inzhenerno-stroitel'nyy institut.

ANAN'YEV, Vsevolod Petrovich; ZURNADZHI, V.A., otv. red.; ZAKHARINA, I.Ya., red.

[Mineralogical composition and properties of loess] Mineralogicheskii sostav i svoistva lessovykh porod Rostov-na-Donu, Izd-vo Rostovskogo univ., 1964. 143 p. (MIRA 18:1)

[redacted], V.A. (Rostov-na-Donu); ANAN'YEV, V.P. (Rostov-na-Donu); GIL'MAN, Ya.D. (Rostov-na-Donu)

"Manual for designing foundation beds and foundations of buildings and structures on sagging soils," by [illegible] Grigorian. Osn., fund. i mekh.grun. 8 no.1:38 '66. (MIRA 19:1)

[redacted]

Improve planning. Sakh.prom. 30 no.8:34 Ag. '56. (MLRA 9:11)

1. Sakharnyy zavod imeni TSyurupy.
(Sugar industry)

ANAN'YEV, Ya.M. (Stalingrad).

Labor complicated by large submucous myoma of the uterus. Akush. i gin. no.3:71-72 My-Je '53. (MLRA 6:7)

(Labor, Complicated) (Uterus--Tumors)

IVANOV, A.A.; LANKOVITS, A.V. [authors]; ANAN'YEV, Ya.M. [reviewer].

"Obstetric phantom." A.A.Ivanov, A.V.Lankovits. Reviewed by IA.M. Anan'ev. Akush. i gin. no.3:89-90 My-Je '53. (MLRA 6:7)
(Obstetrics--Study and teaching) (Ivanov, A.A.) (Lankovits, A.V.)

ANAN'YEV, Ya. M.

ANAN'YEV, Ya.M.

Giant tumor of the round utero-ovarian ligaments. Akush. i gin. no.3:63 My-Je '55. (MLRA 8:10)

1. Iz akushersko-ginekologicheskoy kliniki (zav. Ya. G.Bukhanov) na baze Stalingradskoy oblastnoy klinicheskoy bol'nitsy.
(LIGAMENTS--TUMORS)

ANAN'YEV, Ya.M.

Unusual case of foreign body in the vagina. Sov.med. 19 no.9: 79-80 S '55. (MLRA 8:12)

1. Iz akusherskо-ginekologicheskoy kliniki (zav.-prof. Ya.G., Bukhanov) na baze Stalingradskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach A.I.Gusev)

(VAGINA, foreign bodies
Lagunaria vulgaris extracted after 25 years)
(FOREIGN BODIES,
vagina., Lagunaria vulgaris extracted after 25 years)

ANAN'YEV, Ya. M., Cand of Med Sci -- (diss) "Combined radiation treatment of cancer of the cervex." Kazan', 1957, 15 pp (Kazan' State Medical Institute), 200 copies (KL, 30-57, 112)

ANAN'YEV, Ya.M.

Case of cervotubal pregnancy. Vop.okh.mat. i det. 2 no.1:82 Ja-F '57. (MLRA 10:2)

1. Iz Stalingradskoy oblastnoy klinicheskoy bol'nitsy.
(PREGNANCY, EXTRAUTERINE)

ANAN'YEV Y.M.

1188. *Experience in combined radioactive therapy of cancer of the cervix uteri (Russian text)*
ANANIEV Y. M. *Akush. i Ginek.* 1957, 4 (101–104)

712 patients with cancer of the cervix uteri underwent combined radioactive therapy; 2.6% of patients were in the first stage of the disease, 44.6% in the second, 48.3% in the third and 4.5% in the fourth stage. The majority of patients were multiparae (85.4%). Radium or mesothorium were used (6 applications for a course of treatment). The average dose was 7,000–8,000 mg.hr. Prophylactic intra-uterine introduction of penicillin (prior to treatment) brought about a considerable decrease of infectious complications. In deep roentgen therapy the total dose averaged 10,000–12,000 r. Radioactive treatment of the fourth stage was palliative. Primary lethality amounted to 0.1%; stage I 66%; stage II 37%; stage III 21%; stage IV 0.

ANAN'YEV, Yakov Mikhaylovich, kand. med. nauk; YUKHNOVSKAYA, S.I., red.

[To women on cancer] Zhenshchinam o rake. Moskva, Meditsina, 1965. 22 p. (MIRA 18:7)

1. ANAN'YEV, YE.

2. SSSR (600)

4. Vacuum Tubes

7. Replacing the 1BIP tube with the 1LIP tube in the "Tula" receiver. Radio No. 11, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

ANAN'YEV, Ye. [Anan'iev, IE.]

Electric power ring of the Ural Mountain Region. Nauka i zhyttia 12 no.11:52 N '62. (MIRA 16:1)
(Ural Mountain Region--Electric power production)

17)

SOV/177-58-5-3/30

AUTHOR: Anan'yev, Ye.G., Lieutenant-Colonel of the Medical Corps

TITLE: Experience in Training Medical Corps Men Who Do Not Belong to the Regular Staff of a Military Unit (Opyt podgotovki neshtatnykh sanitarov v voyskovoy chasti)

PERIODICAL: Voyenno-meditsinskiy zhurnal, 1958, Nr 5, pp 16 - 17 (USSR)

ABSTRACT: The author gives general instructions for training Medical Corps Men who are not on a regular staff. The training performed by physicians and doctors' assistants covers theoretical tasks and practical work under field conditions.

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ANAN'YEV, Yevgeniy Grigor'yevich; ROVNIN, L.I., red.; ROZHDESTVENSKIY, V.V., red.; TSIBULIN, L.G., red.; MIKHEYEVA, Z.I., red.;

[Under a steel canvas] Pod stal'nym parusom. Tiumen', Tiumenskoe knizhnoe izd-vo, 1963. 207 p. (MIRA 17:9)

30-58-3-1/45

AUTHOR: Anan'yev, Ye. P.

TITLE: Atomic Power Engineering in the USSR (Atomnaya energetika SSSR)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 3, pp. 3-14 (USSR)

ABSTRACT: After 3 1/2 years of successful operation of the Atomic Electric Station AS USSR, which supplies electric current to industry and agriculture, and as a result of the designing even more efficient atomic electric stations, the possibility of a far reaching utilization of fissile material for purpose of power engineering has been confirmed. The sixth five years' plan provides for the building of several large atomic electricity stations with a power output of 400 to 600000 kW each, as well as of such of lower power with reactors of various types. As N. A. Dollezhal' stressed in his paper (Ref 1), optimum working conditions correspond only to large atomic plants. Experience gathered by working with the first large atomic power stations will make it possible to select the best type. Furthermore, various atomic power stations planned to be erected are mentioned, but they are intended to be built at a later date.

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Atomic Power Engineering in the USSR

Figure 1 is a total view of one of the planned atomic power stations with a reactor (Ref 2) in which water is used as a moderator and coolant. As nuclear fission material UO_2 is intended to be used. The thermal power of such a reactor is intended to amount to 760 MW which warrants the production of saturated steam for 3 steam turbines of 70000 kW each. Each reactor of 760 MW requires a charge of 40 t UO_2 enriched up to 1 % by the isotope U^{235}. Control is to be automatic. The biological protection of the operating personnel against the effect of γ-quanta and neutrons is to be warranted by a layer of water-concrete and cast iron. The degree of efficiency is to amount to about 26 %. Figure 3 is a schematical drawing of an atomic power station, which, as regards type, is supposed to be similar to that in operation, but considerably improved. Its thermal power is said to amount to 285 MW and its degree of efficiency to 35 %. Figure 4 is the schematical drawing of an atomic electric power station of 50000 kW with a boiling-water reactor. The saturated steam of the reactor is to be conveyed straight to the steam turbine, on which occasion the possibility of working with slightly radioactive steam is to be investigated. In order to provide for sufficient supplies of atomic fuel, much

attention must be paid to the problem of reproduction, which may be done in reactors with fast neutrons. Figure 5 shows the scheme of an atomic electric power station with a reactor with fast neutrons. Liquid sodium is used as a coolant. It is intended to build such a test plant of 50000 kW with a graphite moderator. Also the construction of an experimental plant with the homogeneous boiling water reactor using heavy water as a moderator, is intended for the purpose of extending reproduction of the nuclear fuel $U^{233} - T^{232}$ as nuclear fuel fine powder, i.e. the solution of uranium salts in heavy water is used. In atomic power engineering every suggested design must be justified and experimentally tested, and therefore numerous technical and scientific problems must be solved before the atomic plants will be able to take up normal production. Such problems are those of corrosion, the production of new material, the increase of the durability of heat-transferring elements and others. Aluminum and its alloys as well as circonium and stainless steel are considered to be the most suitable materials for reactor construction. An other important problem is the

Atomic Power Engineering in the USSR

struggle against radioactive radiation in order to guarantee safety and protection to the personnel. Figure 6 shows the atomic power station of Shippingport USA, and Figure 7 the atomic power station of Calder Hall England; both are described. There are 7 figures and 1 reference , 1 of which is Soviet.

21(0) SOV/89-6-3-1/29

AUTHOR: Anan'yev, Ye. P.

TITLE: Some Problems on the Economy of Nuclear Power Engineering (Nekotoryye voprosy ekonomiki yadernoy energetiki)

PERIODICAL: Atomnaya energiya, 1959, Vol 6, Nr 3, pp 245 - 252 (USSR)

ABSTRACT: This article is a survey covering a number of problems of economy which has been compiled on the basis of the following Geneva Atomic Reports for 1958: 54,72,262,1076,1304,1131, 1131, 1318,1363,1382,1593,1445,1624,2027,2028,2092,2163. Some principal problems which are connected with capital investments in atomic power stations, various operational conditions and their influence upon the economical performance of atomic power stations are discussed. Only short reference is made to problems connected with the economy of atomic power stations which are driven by fast reactors. This report contains also information on room heating, which indicates that without doubt this way of employing nuclear power has good prospects. There are 1 figure, 4 tables, and 9 references, 5 of which are Soviet.

Card 1/2

AUTHOR: Anan'yev, Ye. P.

S/030/60/000/03/001/044
B015/B008

TITLE: Problems of Nuclear Engineering

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, Nr 3, pp 3-12 (USSR)

TEXT: Problems of the development of power reactors which are to a considerable extent determined by the available atomic fuel, are explained in the paper under review. The first physical fast neutron reactor (BR-1) with a capacity of several dozen watts was taken into operation in the USSR in April 1955. A. I. Leypunskiy pointed out its interesting details already earlier. Later, reactor (BR-2) with a thermal capacity of up to 100 kw was built for nuclear physics- and material research. The reactor BR-5 with a thermal capacity of 5,000 kw was built in the USSR as a transition from the physical reactor BR-2 to the reactor of an atomic power plant. The scheme of the heat emission is illustrated in figure 1. An atomic power plant with a boiling water reactor, in which superheated steam is to be fed directly into a steam turbine, is under construction in the Ural. This uranium-graphite thermal (neutron) reactor is shown in figure 2 and the principal scheme of the reactor-turbogenerator block in figure 3. A boiling water power reactor of the core-tank type with an electric capacity of 50 Mw is under

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construction in the Ul'yanovskaya oblast' (Ul'yanovsk oblast') USSR. It is stated next that the progress in the field of nuclear engineering depends in a large degree on the discovery and investigation of new coolants and construction materials. Mercury was used in the USSR as coolant for a fast (neutron) reactor, which is, however, described as being unsuitable for power reactors. The problem of the safety of reactors is of great importance and the existing preventive measures are considered to be provisional. The designing and construction of power reactors with gaseous coolants and the utilization of natural uranium are described as being important. The USSR has gained sufficient experience to approach the problem of building large atomic power plants. Many problems must, however, be further investigated. They can only be solved in the USSR on the basis of experience gained in the atomic power plants at present under construction in the Voronezhskaya oblast' (Voronezh oblast'), in the Ural, and on the river Wolga. There are 3 figures.

35049
S/693/61/000/000/007/007
D203/D302

11.3960

AUTHOR: Anan'yev, Ye. P.

TITLE: Organic heat carriers (coolants) and the prospects of applying them in reactors

SOURCE: Kutateladze, S.S. ed. Voprosy teplootdachi i gidravliki dvukhfaznykh sred; Shornik statey, Moscow, Gosnergoizdat 1961, 177-194

TEXT: In a nuclear reactor the coolant can be a non-metallic liquid, a gas or a liquid metal. The author defines an ideal coolant and discusses the properties of the following substances as coolants: Water, D_2O, liquid metals (Na, K, Hg), Bi, Pb, H_2, He and LiF. The desirable properties of organic coolants are high b.p. and low m.p., low vapor pressure at high temperatures, resistance to explosion, non-corrosiveness, high thermal and radiation stability and low cost. Most hydrocarbons are non-corrosive and non-volatile, but have low thermal conductivity and decompose under

X

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irradiation at high temperatures. Organosilicon compounds are being introduced as coolants. Their b.p's are 400-440°C and the m.p's about -40°C. They are non-explosive, non-poisonous, and non-corrosive towards metals. The relevant properties of tetracresyl silicate are quoted. At 275°C with the wall temperature of 365°C this compound is not subject to decomposition Interest has been attracted by the hydrocarbons of the diphenylmethane series: ditolylmethane, dicumylmethane, dixylylmethane, tetra-iso-propyl-diphenyl methane. These compounds do not react with carbon steel. The author gives the thermal stability of the first three of these in terms of their properties after various periods of boiling. The diphenyl mixture (a eutectic of diphenyl and diphenyl ether) is widely used on account of its good coolant properties, but its specific heat is 1.5 times, and the latent heat of evaporation 4 to 5 times lower than that of water. The rate of decomposition is highest in the boundary layer due to the high temperature gradient, but can be reduced 1.5 times by increased circulation. The coefficient of heat transfer depends on the motion of the viscous layer adjoining the heating surface and, therefore, on the temperature differential, Δt between that surface and the coolant. When Δt

Organic heat carriers ...

exceeds 8 to 10°C, bubble boiling goes over into film boiling causing a rapid increase of the wall temperature. The critical heat loads depend on the material of the heating surface but not on their geometry. A comparison is made between glycerin, poly- and monoesters, tetrachlorodiphenyl and the diphenyl mixture as coolants. The diphenyl mixture in combination with other hydrocarbons is regarded as the most promising coolant for atomic reactors. Finally, the organic coolant moderator used in the American reactor OMRE is described in detail. There are 9 table, 6 figures and 11 references: 8 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: Wall Street Journal, 19 December 1958; Canadian Chemical Processings, October 1958; L.W. Fromm and K. Anderson, Nucl. Sci. Engineer, 1956, no. 2, (1), pp. 160-169.

Card 3/3

ANAN'YEV, Ye.P.

Ways of creating an atomic power industry. Vest. AN SSSR 33 no.12:3-11 D '63. (MIRA 17:1)

L 1109-66 EWT(1)/EPF(c)/ETC/EPF(n)-2/EWG(m) WW/GS

ACCESSION NR: AT5016892 UR/0000/64/000/000/0062/0071

AUTHOR: Anan'yev, Ye. P. 44, 55

53
B+1

TITLE: On the mechanism of heat exchange during bubbling boiling of water in a tube and the Reynolds analogy 21, 44, 55

SOURCE: Konvektivnaya teploperedacha v dvukhfaznom i odnofaznom potokakh (Convective heat transfer in two-phase and single-phase flows). Moscow, Izd-vo Energiya, 1964, 62-71

TOPIC TAGS: critical flow, fluid flow, boiling, heat transfer, heat transfer coefficient

ABSTRACT: The author determines the qualitative and quantitative characteristics of heat exchange for the two-phase state of a streaming liquid on the basis of the classical theory of turbulence for the single-phase state and the analogy between heat transfer and variation in the forces of friction in the flow of a liquid (the Reynolds analogy). The continuous process of formation and condensation of bubbles on the heating surface and the resulting changes in the motion of the liquid determine the changes in the coefficient of heat transfer from the hot wall of the tube

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ACCESSION NR: AT5016892

to the stream of liquid. The heat transfer coefficient increases with an increase in bubble formation. Other conditions being equal, the heat transfer coefficient for a boiling liquid in a tube is higher than for a liquid flowing without boiling. Variation in the heat transfer coefficient is accompanied by a proportional change in the coefficient of friction of the liquid. Analysis of experimental data indicates that the coefficient of friction increases with an increase in the heat transfer coefficient. This fact can be used to study the dynamics of variations in the heat transfer coefficient by measuring drag during an experiment, since this is easier than direct measurement of the heat transfer coefficient. The relationship found in this paper between heat transfer and friction on the basis of the Reynolds analogy may be useful in many cases for research workers. Orig. art. has: 2 figures, 3 tables, 5 formulas.

ASSOCIATION: none

SUBMITTED: 17Nov64 ENCL: 00 SUB CODE: ME, TD

NO REF SOV: 009 OTHER: 003

Card 2/2

S/051/62/012/006/014/020
E039/E420

AUTHORS: Anan'yev, Yu.A., Mak, A.A.

TITLE: Limiting sensitivity of methods for recording time-resolved emission spectra

PERIODICAL: Optika i spektroskopiya, v.12, no.6, 1962, 779-784

TEXT: A comparison is carried out between photo-electric and photographic (with and without electronic amplification) methods of recording from the point of view that accuracy of measurement will ultimately be limited by random fluctuations. It is implied that with photoelectric recording a monochromator will be used and for photographic recording a spectrograph, and that the intensity of radiation from the source should be uniform over a spectral range equal to the width of the apparatus function. It is shown that, in general, the following relation exists between the standard deviation in errors of measurement α in spectral $\Delta\lambda$ and in time Δt resolution and the number of stored signals n

$$\alpha^2(\Delta\lambda)^2\Delta tn = \Phi$$

where Φ is some function of the light source and recording

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apparatus. The limiting sensitivity of the photo-electric method is estimated to be at least two orders of magnitude higher than for the photographic method. However, the photographic method has the advantage of permitting the simultaneous recording of quantitative information over a wide spectral (or time) interval. It is also shown that the use of an electron-optical converter will increase the sensitivity of the photographic method by approximately two orders of magnitude. The limitations of this method are discussed. There is 1 figure.

SUBMITTED: April 19, 1961

L 10728-63 EWA(k)/EWT(l)/FBD/T-2/3W2/EEC(b)-2/ES(t)-2/BDS AFFTC/ASD/ESD-3/RADC/APGC/AFWL Pl-4/Po-4 JHB/WG/IJP(C)/K/EH

ACCESSION NR: AP3003116 S/0056/63/044/006/1884/1888 82 81

AUTHOR: Anan'yev, Yu. A.; Yegorova, V. F.; Mak, A. A.; Prilezhayev, D. S.; Sedov, B. M. 25

TITLE: On the operation of a four-level laser

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1884-1888

TOPIC TAGS: four-level laser, trivalent uranium laser, divalent samarium laser, calcium fluoride laser

ABSTRACT: A theoretical and experimental study of the operation of a four-level laser has been conducted. Equations were derived for steady-state operation, cavity parameters, properties of working substances and host substances, pumping power, threshhold, energy-level populations, various transition probabilities, and output power. To verify the theoretical calculations, experiments were conducted to determine the dependence of pumping power and output power

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L 10728-63

ACCESSION NR: AP3003118

of samarium-doped and uranium-doped calcium fluoride lasers on crystal temperature and reflection factor of the mirrors and to determine the relationship between pumping power and output power. Cylindrical crystals with dielectric-coated end faces were used with temperatures ranging from 8 to 300K. Experimental results were in good agreement with the theoretical. Conditions for the transition from four-level to three-level operation were found for the uranium-doped calcium fluoride laser. Orig. art. has: 10 formulas and 4 figures.

ASSOCIATION: Gosudarstvenny*y opticheskiy institut im. S. I. Vavilova (State Institute of Optics)

SUBMITTED: 21Feb63 DATE ACQ: 23Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 001 OTHER: 002

Card 2/2

L 10333-63 EWA(k)/EWT(1)/FBD/BDS/T-2/3W2/EEC(b)-2/ES(t)-2--AFFTC/ASD/ESD-3/RADC/APGC/AFWL--JHB/WG/K/EH/IJP(C)

ACCESSION NR: AP3000740 S/0020/63/150/003/0507/0510

AUTHOR: Anan'yev, Yu. A.; Gribkovskiy, V. P.; Mak, A. A.; Stepanov, B. I. (Academician AN BSSR)

TITLE: Properties of the four-level optical quantum generator 25 75 74

SOURCE: AN SSSR. Doklady*, v. 150, no. 3, 1963, 507-510

TOPIC TAGS: laser theory, four-level laser

ABSTRACT: A theoretical study of the behavior of a four-level laser with level 3 metastable has been conducted. It was assumed that there were no thermal transitions upward other than that from level 1 to level 2. Formulas showing the effect of working-substance parameters and cavity characteristics on the absorption and oscillation processes were derived. It is shown that in the absence of external losses a low threshold can be attained with high h Nu sub 21/kT values. With transition probabilities p sup 0 sub 32 close to p sup 0 sub 21 in value, the four-level system loses its advantages. Power output per unit resonator volume and the maximum power output of an ideal four-level laser are calculated. With low external losses and very

Card 1/2

L 10333-63
ACCESSION NR: AP3000740

low operating temperatures, the efficiency of the ideal four-level laser is very high. A formula is obtained relating power output to superthreshold pumping power. After the threshold is reached, large Nu sub 32 radiation densities are established within the cavity, changing the population of levels and thereby varying absorption power and other optical properties of the working substance. These changes can be calculated by means of the derived formulas. Orig. art. has: 1 figure and 24 formulas.

ASSOCIATION: Institut fiziki Akademii nauk BSSR (Institute of Physics, Academy of Sciences BSSR)

SUBMITTED: 29Dec62 DATE ACQ: 21Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 004 OTHER: 000

mcs/ls
Card 2/2

L 6941-65 EWA(k)/EWD/EWT(1)/EEC(k)-2/K/T/EEC(t)/EEC(b)-2/EWP(k)/EWA(m)-2/
EWA(h) Pn-4/Po-4/Pf-4/Pi-4/P1-4 IJP(c)/AFWL/BSD/AFETR/ASD(a)-5/RAEM(a)/
ASD(d)/SSD/ESD(t)/ESD(gs)/RAEM(t) WG

ACCESSION NR: AP4033133 S/0120/64/000/002/0135/0137

87
85

AUTHOR: Anan'yev, Yu. A.

TITLE: Efficiency of elliptical cylinders in laser exciting systems

SOURCE: Pribory* i tekhniki eksperimenta, no. 2, 1964, 135-137

TOPIC TAGS: laser, laser pump, elliptical cylinder laser pump, laser pump efficiency, elliptical cylinder pump efficiency

ABSTRACT: A method of estimating the geometrical factor of light utilization which is equal to the fraction of pumping radiation reaching the crystal is briefly set forth. The lamp is considered to be a uniform Lambertian radiator. The method is adequate for comparing various illuminating systems. The formulas developed take the cooling and filtering devices into account and assume that the lamp and crystal diameters are relatively small. The utilization factor is separately averaged along the lamp length and along the radiation directions: $\eta = R\eta_\infty\eta_\theta$, where R is the reflection coefficient of the cylinder inside surface, η_∞ and η_θ are the utilization factors along an infinitely long cylinder and in the transverse directions respectively. Formulas for estimating the latter two factors on the

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L 6941-65
ACCESSION NR: AP4033133

basis of the pumping system parameters are supplied. "The author wishes to thank A. A. Mak for his constant attention to the work." Orig. art. has: 1 figure and 8 formulas.

ASSOCIATION: Gosudarstvennyy opticheskiy institut (State Optical Institute)

SUBMITTED: 12Dec62 ENCL: 00

SUB CODE: EC NO REF SOV: 000 OTHER: 004

Card 2/2

BR

ACCESSION NR: AP4032875 S/0051/64/016/004/0702/0704

AUTHOR: Anan'yev, Yu.A.; Korolev, Ye.A.

TITLE: Distribution of the pumping radiation density in a laser crystal

SOURCE: Optika i spektroskopiya, v.16, no.4, 1964, 702-704

TOPIC TAGS: laser, laser pumping, laser absorption, ruby laser, fluorite laser, laser crystal

ABSTRACT: In the usual cylindrical-type laser system the radiation from the illuminator (flash tube + reflector) is incident isotropically on the surface of the laser rod or tube. Accordingly, most earlier calculations of the distribution of the pumping radiation within the specimen were based on the assumption that the incident radiation is isotropic only in the plane perpendicular to the axis of the cylinder (G.E.Devlin, J.McKenna, A.D.May and A.L.Schawlow, Appl.Optics,1,11,1961) or is incident only normal to the surface of the specimen (K.Tomiyasu, Proc.IRE, 50,2488,1962); consequently, in view of the fact that actually the radiation from the source is incident on any point of the laser crystal at all angles in a 180° range, the results of such calculations do not adequately describe the volume (spatial) distribution of the absorbed radiation within the crystal. The present paper

Card 1/2

BR

ACCESSION NR: AP4035484 S/0051/64/016/005/0911/0914

AUTHOR: Anan'yev, Yu. A.; Galaktionova, N. M.; Mak, A. A.; Sadov, B. M.

TITLE: The emission spectrum of a samarium 2+ doped calcium fluoride laser

SOURCE: Optika i spektroskopiya, v. 16, no. 5, 1964, 911-914

TOPIC TAGS: emission spectrum, calcium fluoride laser, samarium 2+ doped laser, laser oscillation spectrum, laser crystal

ABSTRACT: The experimental investigation of the emission spectrum of a samarium 2+ doped fluoride laser (emitting at 0.708 μ) was performed to establish the relationship between the temperature of crystal and the broadening of the oscillation spectrum. This confirms that while at small pumping energies the number of modes is independent of the energy, it sharply increases at larger energies, reaching

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ACCESSION NR: AP4035484

16 when the crystal is heated to 60K. Theoretical and experimental results indicate that the heating, due to Stokes losses, of a crystal 33 mm long at 25K is less than 3—5 deg when the pumping energy is 22 joules and 15—20 deg at 92 joules. During the oscillation pulse the wavelength of each mode increases by 0.09Å, while the distance between adjacent modes remains constant at 0.088Å. For a 30-deg heating of the crystal, the total spectral shift of the laser was ~0.6Å, and thus the shift versus the heating rate was ~0.02Å/degree. The width of spectral modes varied during oscillation from 0.035Å (start) to 0.017Å (end). Results indicate that the various modes are independent of each other only at the start. Splitting of spectral modes into 2 components was observed at the start of oscillation; it amounted to ~0.035Å. The reason for this remains unknown. Orig. art. has: 1 formula and 5 figures.

ASSOCIATION: none

SUBMITTED: 16Aug63	DATE ACQ: 22May64	ENCL: 00
SUB CODE: PH	NO REF SOV: 001	OTHER: 001

Card 2/2

ANAN'YEV, Yu.A.; GALAKTIONOVA, N.M.; MAK, A.A.; SEDOV, B.M.

Emission spectrum of a $CaF_2:Sm^{2+}$ laser. Opt. i spektr. 16 no.5: 911-914 My '64. (MIRA 17:9)

ACCESSION NR: AP4039712 S/0051/64/016/006/1065/1068

AUTHOR: Anan'yev, Yu. A.; Mak, A. A.

TITLE: Variation of resonator characteristics in an optical laser during the generation process

SOURCE: Optika i spektroskopiya, v. 16, no. 6, 1964, 1065-1068

TOPIC TAGS: optical laser, solid state laser, fluorite laser, samarium doped laser, laser resonator

ABSTRACT: The Stokes losses and nonuniform pumping of a solid-state laser can lead to the deformation of the crystal rod and the parallel-plate system. Experiments with a divalent samarium-doped fluorite laser were carried out to investigate the variation of resonator characteristics in the generation process. A crystal rod 8 mm in diameter and 33 mm long with flat ends was used. Dielectric coating about 0.708 μ thick was applied to make the ends reflective. The crystal was pumped by square-wave 700-μsec pulses by a flash lamp

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ACCESSION NR: AP4039712

in an elliptical reflector. In order to investigate deformation due to pumping, two identical crystals were placed separately in each arm of the Mach-Tsendar interferometer and only one crystal was excited. Comparative photographs of interferograms show that the thermal deformation of crystal is a function of the initial temperature of the crystal. This is due to an increase in the coefficient of thermal expansion of fluorite with increases in temperature. The difference in the optical path at the axis and at the edge of the rod is 1.5 bands at an initial temperature of 300K and pumping-energy density of 300 j/cm^3 of the crystal. At an initial temperature of 50K, the average temperature increase due to pumping was 12K. The nature of crystal deformation is independent of generation in a crystal. The density of absorbed excitation energy is 35% higher along the crystal axis than the average density in the crystal. Additional deformation occurs in the form of crystal lengthening. This leads to a change in the wavelength of stimulated emission. Orig. art. has: 1 formula and 3 figures.

ASSOCIATION: none

Cord 2/2

L 25312-65 EWA(k)/EWT(l)/EEC(k)-2/T/EEC(b)-2/EWP(k)/EWA(m)-2 Po-4/Pf-4/Pi-4/
Pi-4 IJP(c) WG/JHB

ACCESSION NR: AP5004366 S/0056/65/048/001/0007/0012

AUTHOR: Anan'yev, Yu. A.; Mak, A. A.; Sedov, B. M.

TITLE: Amplification of light by four-level quantum systems

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 7-12

TOPIC TAGS: four level system, light amplification, $CaF_2:Sm^{2+}$ laser, paramagnetic laser, laser amplifier

ABSTRACT: A study was made of the amplification of light in a four-level laser system in which the signal wavelength corresponded to the maximum coefficient of negative absorption of the medium. The theoretical studies, based on a probability method, were made for the steady and transient states of amplification. The experimental investigation was limited to the measurement of the gain in a steady state. For this purpose, the authors used $CaF_2:Sm^{2+}$ crystals at 20K. Two cylindrical rods 30 mm long and 8 mm in diameter with coated plane ends and unpolished sides were placed in a cryostat. One of the rods, pumped by a pulse 25—30 μsec in duration, acted as a signal source; the other, pumped by a longer (150 μsec) pulse, was the amplification. Gain measurements were carried out at various pumping intensities.

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L 25312-65

ACCESSION NR: AP5004366

The results show that gain decreased when signal intensity increased. This relationship was most noticeable at high gain. The theoretical and experimental results were in good agreement, except when the coefficient of amplification was equal to or exceeded 7. In this case, the disagreement was apparently due to a decrease in the lifetime of the excited state (in the presence of considerable population inversion) which leads in turn to a decrease in the gain. Orig. art. has: 6 formulas and 3 figures. [YK]

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S. I. Vavilova (State Optical Institute)

SUBMITTED: 18Apr64 ENCL: 00 SUB CODE: EC, OP

NO REF SOV: 003 OTHER: 002 ATD PRESS: 3184

Card 2/2

L 3202-66 EWT(1) IJP(c)

ACCESSION NR: AP5008732 S/0056/65/048/003/0782/0790

AUTHOR: Anan'yev, Yu. A.; Sedov, B. M.

TITLE: Spectral and time characteristics of stimulated emission from $CaF_2:Sm^{2+}$

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 3, 1965, 782-790

TOPIC TAGS: stimulated phosphorescence, calcium fluoride, samarium, stimulated emission, paramagnetic laser

ABSTRACT: This experiment was conducted to explain some of the phenomena which have been observed in the spectral and time characteristics of stimulated emission. $CaF_2:Sm^{2+}$ was selected as the active medium in studying many of the unexplained problems connected with the "spike" nature of stimulated emission, since this substance is the only solid medium which has shown no "spikes" in its emission. The results of radiation distribution studies with respect to axial oscillation modes are given in graphic form. It was found that the greatest portion of the stimulated emission is concentrated in a relatively narrow spectral zone close to the maximum for the luminescence line. The results of the studies indicate that many of the stimulated emission properties for $CaF_2:Sm^{2+}$ are explained quite well by generally

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L 3202-66

ACCESSION NR: AP5008732

3

accepted hypotheses. For instance the stimulated emission from a sample with flat ends is divided into a number of bands which correspond to groups of oscillations with identical axial indices. Radiation distribution in these bands is described satisfactorily by the relationships obtained by Tang et al. (C. L. Tang, H. Statz, G. De Mars, *J. of Appl. Phys.*, 34, 2289, 1963). Small deviations from the ideal shape of the resonator cause considerable changes in the oscillation modes. It was found that the average value of the spectral intervals between separate modes of oscillation corresponds satisfactorily with the error in manufacture of the resonator. The absence of oscillations in integrated emission from $CaF_2:Sm^{2+}$ is explained by pile-up of a large number of spikes over a period of time, these spikes corresponding to emission of various modes of oscillation. "The authors extend their thanks to A. A. Mak for suggesting the problem, valuable advice and reviewing the results." Orig. art. has: 6 figures, 2 formulas, 1 table. [14]

ASSOCIATION: none

SUBMITTED: 19May64 ENCL: 00 SUB CODE: EC, OP

NO REF SOV: 009 OTHER: 009 ATD PRESS: 4013

PC

Card 2/2

L 45781-66 EEC(k)-2/EWP(k)/EWT(1)/EWT(m)/T/EWP(e) IJP(c) WG/WH

ACC NR: AP6027899 SOURCE CODE: UR/0368/66/005/001/0051/0055

71
69
B

AUTHOR: Anan'yev, Yu. A.; Kozlov, N. A.; Mak, A. A.; Stepanov, A. I.

ORG: none

TITLE: Thermal deformation of the resonator of a solid-state laser 25

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 1, 1966, 51-55

TOPIC TAGS: solid state laser, laser resonator, thermal deformation, thermal stress, temperature distribution

ABSTRACT: The authors investigate the thermal deformation of a laser resonator due to nonuniform heating by the active material. The experiment was carried out with cylindrical specimens of neodymium glass (80 mm long, 5 mm in diameter) with frosted lateral faces pumped by a xenon flashlamp. The experimental set-up used is described and illustrated (Fig. 1). Considerable deformation of the resonator was observed in all the modes tested. A comparison of the experimental data with the calculations performed revealed that with increasing temperature drop in the specimen, the deviation of the experimental and the calculated quantities of the optic behavior increases, reaching a peak at T = 38C. In order to determine the reasons for this divergence,

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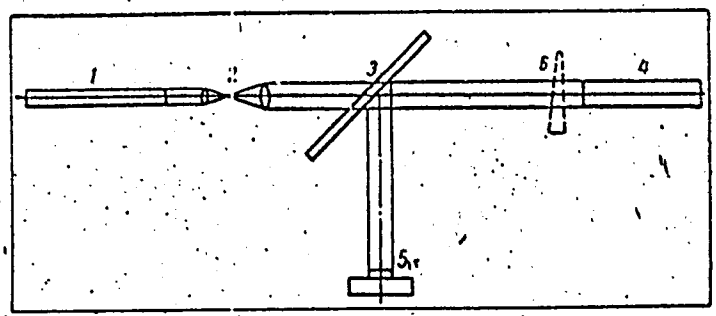

Fig. 1. Optical diagram of the set-up

1 - gaseous laser; 2 - telescope for increasing beam diameter; 3, 6 - transparent plates; 4 - test specimen; 5 - camera.

a study was made of the deformation of the end faces of the specimens, as well as of the birefringence in them due to thermal stresses. The results obtained show that the deformation of a laser resonator during optical pumping of an activated specimen is due to the nonuniformity of the temperature distribution in the specimen as well as to the thermal stresses resulting from this nonuniformity. Furthermore, at high temperature drops the effect due to these stresses is substantial. In conclusion, the authors express their gratitude to V. S. Doladugina and Ye. G. Berezina for useful discussions. Orig. art. has: 3 formulas, 1 table, and 3 figures. [26]

SUB CODE: 20/ SUBM DATE: 05Jul65/ ORIG REF: 008/ OTH REF: 002 / ATD PRESS: 5085

L 14529-66
ACC NR: AP6004418 SOURCE CODE: UR/0051/66/020/001/0168/0169

AUTHOR: Anan'yev, Yu. A.

45
B

ORG: none

TITLE: On the maximum obtainable resolution of a real Fabry-Perot etalon

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 168-169

TOPIC TAGS: light interference, interferometer, laser optics, gas. laser

ABSTRACT: A formula similar to the Airy formula is derived for the amplitude of radiation passing through the etalon when a narrow monochromatic light beam is directed on the region of minimum distance between mirrors. An expression for the limit of resolution is obtained from this formula which makes it possible to estimate the angles of incidence at which the resolution approaches the value for an ideal etalon in spite of the presence of systematic imperfections

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in the finish of the mirrors. It is shown that a distance $\delta\lambda$ between components amounting to 1/200 — 1/400 of the spectral interval between the orders of the etalon is feasible. Such a distance was attained by the author in a gas laser and in other applications. Orig. art. has: 2 figures and 2 formulas. [02]

SUB CODE: 20/ SUBM DATE: 25Jan65/ ORIG REF: 002/ OTH REF: 002
ATD PRESS: 4197

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L 41695-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) WG

ACC NR: AP6008040 SOURCE CODE: UR/0020/66/166/004/0825/0828

AUTHOR: Anan'yev, Yu. A.; Balashov, I. F.; Mak, A. A.

ORG: none

TITLE: Theory of monopulse operation of lasers

SOURCE: AN SSSR. Doklady, v. 166, no. 4, 1966, 825-828

TOPIC TAGS: laser pulsation, laser radiation, laser emission, laser energy

ABSTRACT: The theoretical examination of the monopulse mode of laser operation made in this paper includes the processes following the instantaneous increase in resonator Q as well as the process of energy accumulation in the active medium. When the inverted population is large, spontaneous emission is amplified and the lifetime of the excited state is decreased. This, together with the light leakage from the active medium, is one of the main factors limiting energy accumulation and consequently the generated power as well. The media considered are three- and four-level solid state rods with polished and mat side surfaces. Energy accumulation in the active medium must continue for a time exceeding the effective lifetime of the excited state in order to obtain the maximum population inversion. The population inversion is found for a three- and a four-level medium, taking into account spontaneous and induced radiation. Equations are derived for calculating the number of quanta induced by spontan-

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eous quantum of a given frequency, taking losses into account. The effective length of the rods is calculated and the average photon paths incident to the walls are described in relation to rod diameter. A more effective method is given for finding the number of spontaneously induced quanta, based on the spectral density of the illumination. Conditions are outlined for the generation mode and equations are given for finding maximum pulse power, generation energy, and pulse duration. Calculations are made for both three- and four-level systems and results for maximum power are plotted. Presented by Academician A. A. Lebedev on 31 May 1965. Orig. art. has: 11 formulas, 2 figures.

SUB CODE: 20/ SUBM DATE: 27May65/ ORIG REF: 006/ OTH REF: 003

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ACC NR: AP7006122 SOURCE CODE: UR/0056/67/052/001/0012/0020

AUTHOR: Anan'yev, Yu. A.; Mak, A. A.; Sedov, B. M.

ORG: none

TITLE: Angular divergence of emission from a solid state laser

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 52, no. 1, 1967, 12-20

TOPIC TAGS: LASER EMISSION, solid state laser, paramagnetic laser, laser beam, ~~beam divergence~~, neodymium glass, ~~glass laser~~, calcium fluoride, NEODYMIUM LASER, LASER CAVITY

ABSTRACT: To determine the influence of pump and cavity parameters on the divergence of a solid state laser, and to ascertain the degree to which laser mode selection is affected by the connection between the angle and energy characteristics of the laser, the authors measured the beam divergence of neodymium-glass and $CaF_2:Sm^{++}$ lasers whose pump and cavity parameters were varied. The beam divergence was determined by a photographic procedure. The pump was a straight xenon flash lamp in an elliptic reflector. The cavity length ranged from 0.5 to 300 cm. The pump energy did not exceed 50 - 70 J for the $CaF_2:Sm^{2+}$ laser and 130 J for the neodymium-glass laser. The beam divergence was found to be practically independent of the excess energy over threshold and of the reflection coefficient of the cavity mirror. The generated power, the beam divergence, and the threshold of pump intensity all decreased with increasing cavity length, but by varying degrees, the divergence being inversely proportional to the square root of the cavity length in an appreciable range of lengths. It is concluded that the experimentally observed beam divergence is governed by the excitation of a

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large number of competing transverse modes in the laser, with diffraction losses playing the major role in this competition. Using quantitative data from an earlier study (ZhTF v. 37, 139, 1967), it is shown that by judicious selection of the modes it is possible to reduce the beam divergence to a value close to the diffraction limit, without greatly reducing the generation power. Orig. art. has: 5 figures, 3 formulas, and 2 tables. [02]

SUB CODE: 20/ SUBM DATE: 25May66/ ORIG REF: 013/ OTH REF: 006 /
ATD PRESS: 5117

Card 2/2

AMAN'YEV, Yu.F.

A system of thermoanemometers. Izv.vys.ucheb.zav.; av.tekh. 2 no.3:130-135 '59. (MIRA 12:12)

1. Moskovskiy aviatsionnyy institut. Kafedra AP-1.
(Anemometer)

S 143/60/000/006/001/008
A169/A026

9.6100

AUTHOR: Anan'yev, Yu.F., Engineer

TITLE: The Experimental Characteristics of a Thermoanemometer

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Energetika, 1960, No. 6, pp. 37 - 44

TEXT: The author desribes the experimental and theoretical investigation of thermoanemometer pickups. The results confirm the correctness of the formulas (2) and (3) for determining the time constant (M) and the amplification factor (K), respectively, for thermoanemometer pickups. The author had derived these formulas in a previous paper (Ref. 6). The pickups used in the experimental investigation were made of a 10 μ tungsten filament which was clamped to two platinite needles. Provisions were made for rotating the pickup at different speeds during the tests. The experimental arrangement is described. There are 8 figures and 8 Soviet references.

ASSOCIATION: Moskovskiy ordena Lenina aviatsionnyy institut imeni S. Ordzhonikidze (Moscow Order of Lenin Aviation Institute imeni S. Ordzhonikidze

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S 143/60/000/006/001/008
A169/A026

The Experimental Characteristics of a Thermoanemometer

PRESENTED: Department AP-I

SUBMITTED: January 2, 1960

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S/024/60/000/006/009/015
E031/E413

1400

AUTHOR: Anan'yev, Yu.F. (Moscow)

TITLE: The Approximate Analysis of Systems With Stochastic Parameters

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, No.6, pp.155-156

TEXT: Consider a linear dynamical system emitting a stationary stochastic signal and a determinate periodic one. The relation between the second initial moment of the output signal and the moments of the random quantities Δq_k, which are the variations in the nominal values of the parameters of the system, is determined. According to V.S.Pugachev (Ref.1), the stochastic signal X(t) is represented in its canonical form

$$X(t) = \sum_{\nu=-\infty}^{\infty} X_\nu e^{j\omega_\nu t} \qquad (1)$$

and the determinate signal is represented as a Fourier series,

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The Approximate Analysis of Systems With Stochastic Parameters

where $e^{j\omega_\nu t}$ - the coordinate functions
X_ν - random centered coefficients
A_ν - complex coefficient of the Fourier series
$\Phi(j\omega)$ - frequency function of the system.

Multiplying the complete output signal by its complex conjugate and calculating the mathematical expectation, the conditional initial moment of the output signal for Δq_k = const is calculated

Eq. (4)

$$K_x^\circ(t, t' \mid \Delta q_k) = \sum_{\nu=-\infty}^{\infty} |\Phi(j\omega_\nu)|^2_{\Delta q_k} \cdot D_\nu e^{j\omega_\nu(t-t')} + \sum_{\nu,\mu=-\infty}^{\infty} (\Phi(j\omega_\nu^\circ)\,\overline{\Phi(j\omega_\mu^\circ)})_{\Delta q_k} A_\nu \bar{A}_\mu e^{j(\omega_\nu^\circ t - \omega_\mu^\circ t')} \quad (4)$$

where $\Phi(j\omega)$ is the frequency function of the system. If we now assume that the Δq_k are stochastic quantities, we can obtain

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